



⑪ Publication number:

**0 259 269**  
**A1**

12

**EUROPEAN PATENT APPLICATION**

② Application number: 87830003.7

⑤ Int. Cl.<sup>3</sup>: **A 42 B 3/00**

②② Date of filing: 09.01.87

③① Priority: 05.09.86 IT 2162886

④3 Date of publication of application:  
09.03.88 Bulletin 88/10

**(84) Designated Contracting States:**  
**AT BE CH DE ES FR GB GR LI LU NL SE**

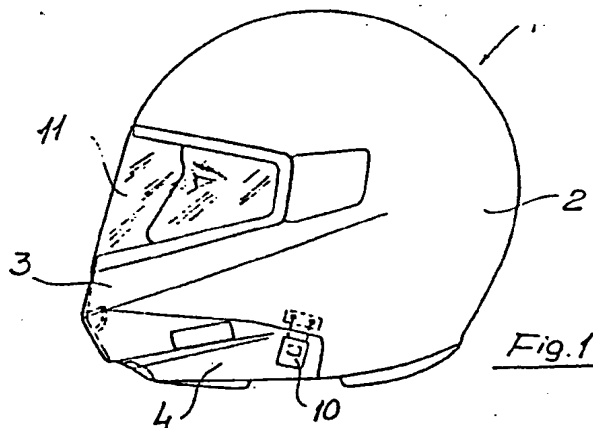
71 Applicant: **NOLAN S.p.A.**  
Via Capitani di Mozzo, 12/16  
I-24030 Mozzo (Bergamo) (IT)

**(72) Inventor: Nocchi, Marzio**  
**Nolan S.p.A. Via Capitani di Mozzo, 12/16**  
**I-24030 Mozzo (Bergamo)(IT)**

**74) Representative: Cicogna, Franco**  
**Ufficio Internazionale Brevetti Dott. Prof. Franco Cicogna**  
**Via Visconti di Modrone, 14/A**  
**I-20122 Milano (IT)**

54 A full-face crash helmet with an improved chin-covering member.

(57) A crash helmet (1) of the full-face type is provided with a chin-covering closure body (4) having an inner padded chinrest body (6) the position of which is adjustable with respect to the chin-covering closure body (4) but which can be fixed in the selected position once adapted to a given user.



**EP 0 259 269 A1**

**Croydon Printing Company Ltd**

- 1 -

"A full-face crash helmet with an improved chin-covering member

The present invention relates to a crash helmet of the so-called "full-face" type, incorporating a chin-covering member having means  
5 able to guarantee a comfortable and close fit to the chin of the user.

Crash helmets for motorcyclists, including those of the type entirely enclosing the user's head, known as "full-face" helmets,  
10 are normally fixed to the head of a user by means of a chin strap which is provided with an adjustable buckle which allows the mutual connection of its ends at the desired length to hold the helmet in place securely and without wobbling. By adjustment of this strap such helmets can in practice be easily adapted to any shape of head  
15 and in particular, to the length and shape of the chin.

Recently, an improvement to the known full-face crash helmet for motorcyclists has been introduced; these crash helmets are still of the full-face type, but instead of a chinstrap they have a lower  
20 shaped element or "body" which is hinged to the helmet and can be turned downwardly to vary the size of the lower opening of the helmet through which the wearer's head is introduced. When this body is in the closed position the lower opening is of smaller dimensions than those of the head of the user so that, manifestly,  
25 the helmet cannot come off; on the other hand, when the body itself is in the open position it is possible easily to remove the helmet from the head or to put it on. Consequently such helmets do not

need the conventional chinstrap because the securing action is effectively exerted by the said body.

5 However, this body has to be padded internally with soft material for comfort of the wearer, this padding being in a form conveniently to surround the chin of the wearer, and because of the presence of the padding it is not always possible for the helmet to be securely fixed to the head of the wearer, bearing in mind the wide range of head shapes which have to be accommodated.

10

In fact, although the body is structured in such a way as to prevent the helmet from coming off the head of the wearer it cannot be shaped in a "universal" way to fit any form of chin or to fit the overall dimensions of all head shapes on which it may be worn.

15 In other words, this construction is able solely to prevent the helmet coming off accidentally, but not to avoid the troublesome possibility of it moving loosely with respect to the head during use, even if correctly fitted and with the body closed.

20 The object of the present invention is that of eliminating the disadvantages discussed by providing a crash helmet of the full-face type which is formed in such a way as to be able to be fixed to the head of the wearer in a secure manner without wobbling loosely, when properly adjusted.

25

According to the present invention there is provided a crash helmet of the full-face type having a rigid hinged closure body for covering the chin of a wearer characterised by the fact that this closure body carries a padded inner chinrest body the position of which is adjustable with respect to the closure body on which it is carried, whereby to be adaptable to the shape of the chin of a  
30 wearer.

A particular advantage of the present invention is that it provides a crash helmet of the full-face type, which can be adapted, within wide limits, to any shape of chin or head and can be fitted securely thereon, once properly adjusted, simply by closure of the hinged body.

Another advantage of the present invention is that it provides a crash helmet of the full-face type, which will not be subjected to any vibrations during use, whatever the activity of the wearer and however rigorous his movements may be.

One embodiment of the invention will now be more particularly described, by way of example, with reference to the accompanying drawings, in which:

15

Figure 1 is a schematic side view of the helmet of the invention, with the hinged body in the closed position;

Figure 2 is a side view of the same helmet with the hinged body in the open position;

20

Figure 3 is a schematic side view of the hinged body; and

Figure 4 is a section of the hinged body taken on the line IV-IV of Figure 3.

With reference now to the drawings the full-face crash helmet shown is generally indicated with the reference numeral 1, and comprises a cap portion 2 of substantially conventional type with a transparent visor 11, a lower opening 5 defined in part by a chin protector 3, to which is pivoted a hinged chin-covering closure body 4.

30

This chin-covering closure body 4 has the shape of an enclosing shell which can be disposed beneath the chin of the user in such a way as conveniently to reduce the dimension of the lower opening 5

- 4 -

of the helmet itself, and is preferably made of a plastics material or a reinforced plastics material. Connected to the chin-covering closure body 4 is an inner chinrest body 6 which is provided with shaped padding which can adapt itself to the shape of the chin of the user. To form this attachment the inner face of the lateral part of the chin-covering closure body 4 is provided with respective projections 7 with a guide function having a slot 12 capable of housing a fixing screw 8. The inner chinrest body, in turn, has a corresponding channel 9 formed in proximity to the said guide projection 7 and provided with at least one threaded hole which can engage the fixing screw 8. Consequently, the closure body 4 and the chinrest body 6 can be adjusted relative to one another by sliding movement of the chinrest body 6 along the guide projections 7 within the range determined by the length of the slot 12 along which the fixing screw can slide.

A resilient fixing member generally indicated with the reference numeral 10 is provided on the helmet and can be fixed on both sides to the base of the chin-covering closure body 4 to hold this in the closed position. With the closure body 4 in the open position the user can introduce his head into the helmet: the closure body can then be closed and by adjusting the position of the inner chinrest body by trial and error a firm connection of the helmet to the head itself can be obtained by bringing the inner chinrest body to a suitable position against the chin. It will be appreciated that the chinrest body, like the remainder of the interior of the helmet, is suitably padded so that firm pressure can be exerted without discomfort.

The available direction of relative movement of the chinrest body 6, and the padding thereof, are designed in such a way as to allow the adaptation of the helmet to the greatest possible range of head shapes. Moreover, once the said fixing screw 8 has been tightened

(when a suitable adjustment has been found) relative sliding between the closure body 4 and the inner chinrest body 6 will not occur even in the case of impact.

- 6 -

## Claims:

1. A crash helmet (1) of the full-face type having a rigid hinged closure body (4) for covering the chin of a wearer characterised by the fact that this closure body (4) carries a padded inner chinrest body (6) the position of which is adjustable with respect to the closure body (4) on which it is carried, whereby to be adaptable to the shape of the chin of a wearer.
2. A crash helmet according to Claim 1, characterised by the fact that it includes a cap portion (2) of substantially conventional shape having a face-covering front portion (3) to which the closure body (4) is hingedly mounted, the latter having the shape of an enclosing shell which can be moved, beneath the chin of the user, between a closed position in which it retains the helmet (1) on the wearer's head and an open position in which it allows the helmet to be placed on or removed from the wearer's head.
3. A crash helmet according to Claim 1 or Claim 2, characterised by the fact that the inner face of the lateral walls of the said closure body (4) are provided with respective guide projections (7) having through holes (12) for receiving fixing screws (8), the inner chinrest body having a corresponding channel (9) on each side for receiving respective guide projections (7) and provided with at least one threaded hole in which the said fixing screw (8) can engage, the said inner chinrest body (6) being slidable along the guides (7) when the clamping screws (8) are released, and held in position on the closure body (4) when the clamping screws are tightened.
4. A crash helmet according to Claim 3, characterised by the fact that the said through holes (12) in the closure body (4) are

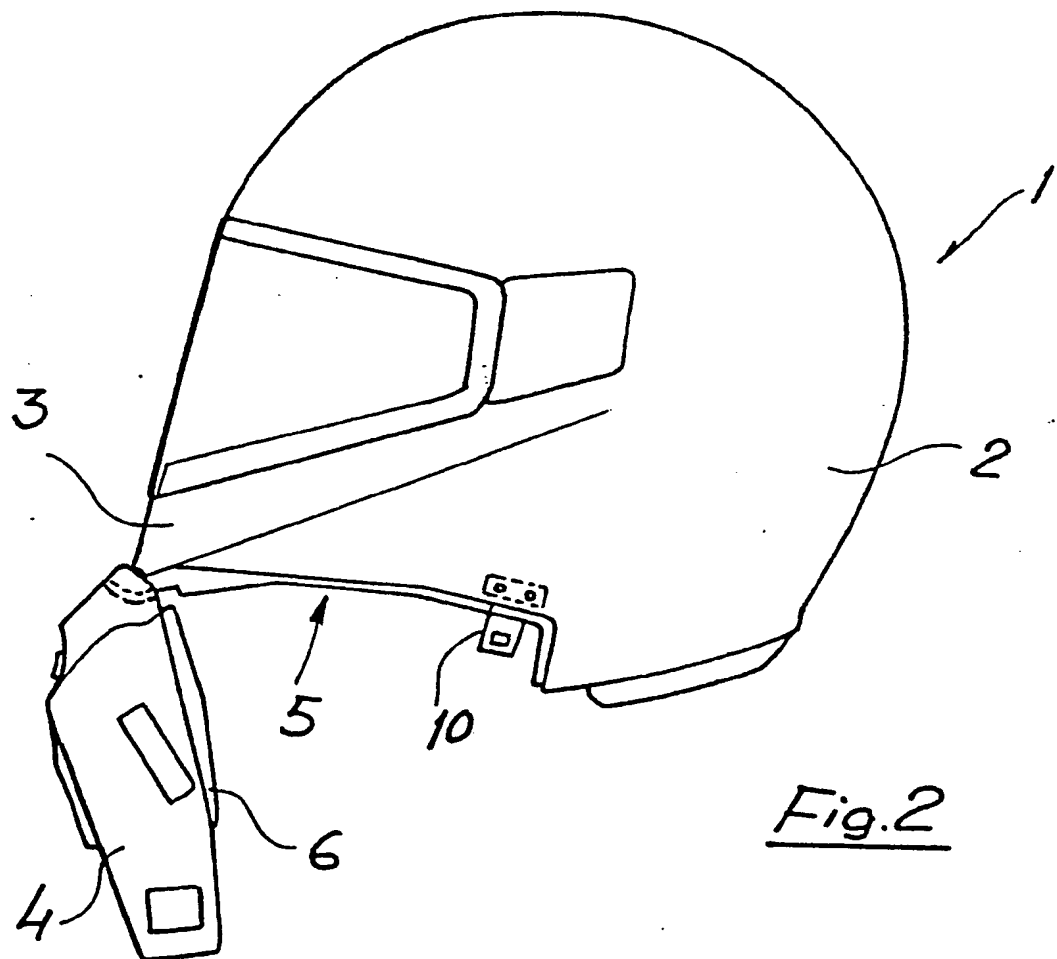
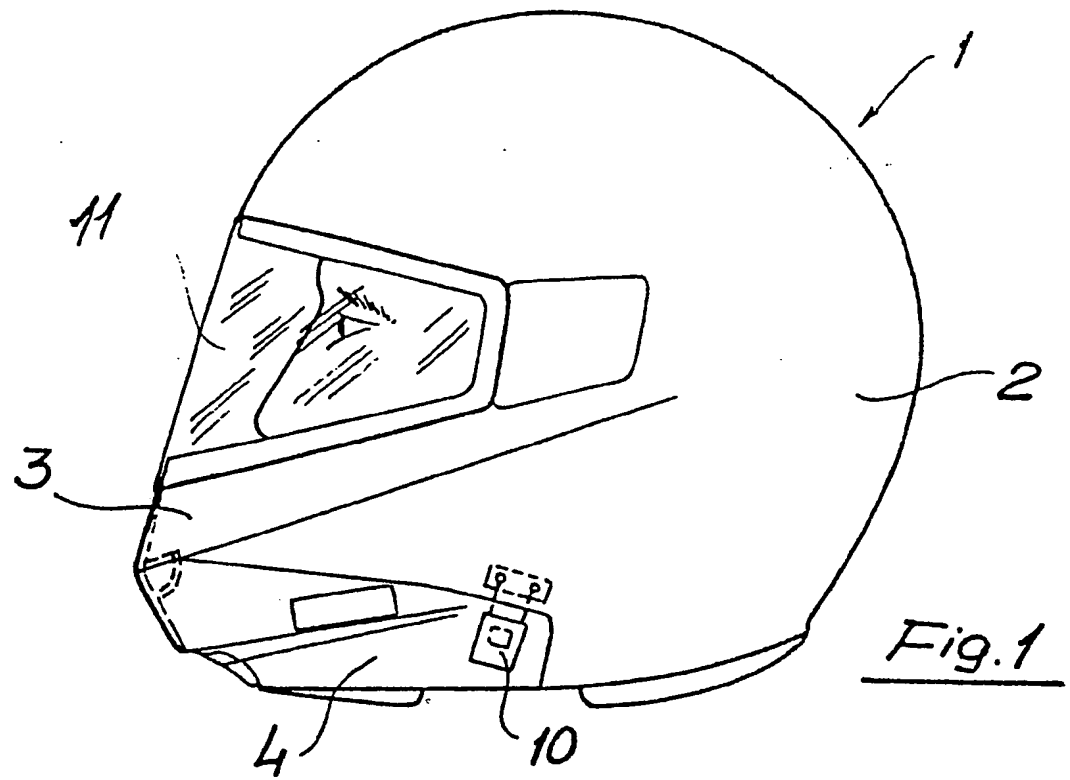
elongate slots along which the said clamping screws (8) can slide upon adjustment of the relative positions of the inner chinrest body (6) with respect to the closure body (4).

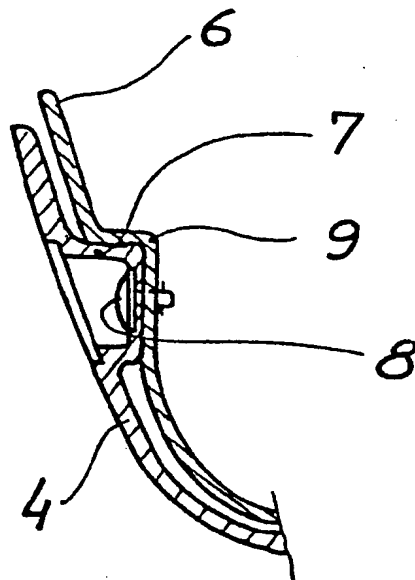
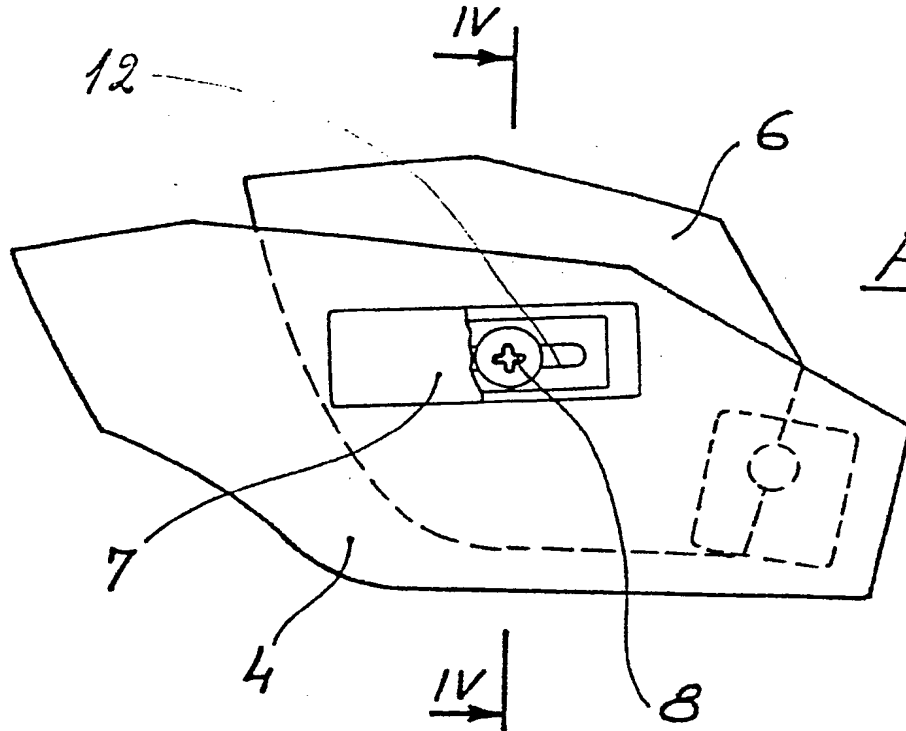
- 5 5. A crash helmet according to any preceding Claim, characterised by the fact that there is further provided a resilient retaining member (10) on each side of the helmet body for engagement with a part of the closure body (4) to hold it in the closed position.

10

6. A crash helmet as claimed in any preceding Claim, characterised by the fact that the closure body (4) and/or the inner chinrest body (6) is or are made from reinforced or unreinforced plastics material.









European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number

EP 87 83 0003

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	FR-A-2 560 503 (GESSALIN) * Whole document *	1-6	A 42 B 3/00
A	FR-A-2 525 441 (HOFFMANN) * Page 9, lines 10-17; claim 25; figure 4 *	1-6	
A	US-A-4 042 974 (MORGAN et al.) * Column 2, lines 7-64; figures *	1-6	
A	GB-A-1 576 647 (STADIUM) * Page 2, lines 40-90; figures *	1-6	
A	GB-A-2 119 229 (THETFORD MOULDED PRODUCTS)		
A	DE-A-3 239 619 (ZEISLER)		
A	US-A-2 908 911 (SOWLE)		
A	US-A-3 787 894 (GOODMAN, Jr.)		
A	US-A-3 720 955 (RAWLINGS)		TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			A 42 B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 23-11-1987	Examiner BOURSEAU A.M.
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone  Y : particularly relevant if combined with another document of the same category  A : technological background  O : non-written disclosure  P : intermediate document</p> <p>T : theory or principle underlying the invention  E : earlier patent document, but published on, or after the filing date  D : document cited in the application  L : document cited for other reasons  &amp; : member of the same patent family, corresponding document</p>			

**THIS PAGE BLANK (USPTO)**